



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

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Serial no.: 10/827,169

Art Unit :3732

Filing date: 4/19/2004 Examiner of Application: Bumgarner, Melba N.

Title of Invention: Uniquely Positioned, Winged, Low Profile Impression Cap For
Use with Triple Tray.

Response to First Office Action

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Sir:

1. Informalities in Claim 3 have been corrected.

A clean copy of all claims original and amended is included.

Claim 1 and Claim 4 differ in this aspect. Claim 1 refers to an impression post. Claim 4 refers to an implant abutment. Although the distal end of each is shaped the same with a single flat face for attachment to the impression post cap, the impression post is later embedded in the stone model, while the implant abutment is attached to the implant in the jaw.

From the Abstract: "By aligning a single projection against a matching surface, a low profile, winged impression cap is placed in a unique clocking position over a low profile impression post or an installed implant abutment. "

Either of two methods can be used by the practitioner. If an existing abutment has already been placed, as in a repair or immediately loaded implant, the cap may be snapped upon the abutment to take an accurate triple tray impression. Alternately, an analog of the abutment is used to temporarily align an impression post cap during the taking of the impression. The temporary abutment analog then is removed and a healing cap installed.

2. Rebuttals to objections to the claims under 35 USC section 103 are offered as follows: Reviewing Halldin, et al., US Patent # 6,824,386 in view of Kumar US Patent # 6,382,977 show the following differences apparent to the applicant.

Neither Halldin nor Kumar is concerned with a low profile transfer process using a triple tray. Neither shows the need for centric closure to obtain an accurate bite registration while embedding the impression cap securely within the impression polymer. Therefore, Kumar has a tall vertical blade-like projection, shown in his drawings as extending well into the occlusal plane. He does not mention the triple tray, but uses a single tray for all of his impressions. He does show a number of retention elements, including slots and holes, but only on a tall, vertical element extending into the occlusal plane. He states, "The length of the blade is preferably between about 7-15 mm and is most preferably about 11 mm." (Col 7, line 61). A blade of this length intrudes into the occlusal plane.

Likewise, Halldin shows a tall, high profile impression cap that extend into the occlusal plane, thus preventing the complete closure of the jaw. He does not use or mention the triple tray procedure for taking a simultaneous impression of the upper and lower jaw and a registered bite pattern.

Both Halldin and Kumar have failed to anticipate applicant's need to save time and improve registration by using a triple tray. Applicant has filed this application to overcome a possible perceived deficiency in his previous issued patent. In the inventor's prior application Serial Number 09/828,593 now issued as US patent 6,508,650, the inventor teaches a low profile,

non-interfering dental implant impression cap for making time saving and accurate, simultaneous upper and lower impressions and bite registration with the jaw accurately positioned in centric closure. Featured in that invention are a number of symmetrical projections or surfaces that allow the choice of several possible clocking positions of the low profile impression cap on the impression post. The inventor feels that this could lead to potential error of communication between the dental surgeon and the lab, resulting in an improperly clocked prosthesis. This invention removes this ambiguity by offering a single clocking orientation. The impression post and cap have been further refined to a single orientation to avoid potential mistakes in the lab.

Examiner's reference to Halldin et al. showing side wings oriented length wise perpendicular to the flat projection (figure 7d) places these side wings well into the occlusal plane as distal part of section 241 of his drawing. Applicant requires that his projections not enter the occlusal plane and would not extend above the region 203 in the same figure 7d. Applicant in his drawing Figure 6 shows his perforated wings 25 and 26 on the winged impression cap 4 are perpendicular and below the occlusal plane while Halldin shows his projections 242 horizontal and above the occlusal plane. In addition, Halldin is relying upon the through passage for fixation within the impression material (col. 9, lines 1-15). He does not conceive of side wings with perforations to lock his impression coping within the polymer.

Applicant teaches, as shown in Figure 6, a close fitting impression cap having a top surface 24 below the occlusal plane and relies upon perforations 27 to aid in retaining wings within the impression material. In the Haldin patent, space 140 is occupied by the distal end of the implant abutment and is not an open passage for retaining the cap within the impression material. The wings are perpendicular to the occlusal plane. The preferred direction of radial orientation is with one wing pointing toward the lingual side and the other pointing toward the buccal side. The abutment's single, orienting alignment flat is intended to face approximately parallel to the buccal plane.

Kumar does not teach the use of a triple tray to obtain simultaneous impressions of the upper and lower bite with bite registration. His snap-in transfer copings have a vertical blade structure for embedment in a standard tray.

Applicant feels that since neither Halldin nor Kumar were attempting to solve the same problem, they could not anticipate, singly or together his invention. Applicant believes that his low profile vertical wings with easily machined through-holes provide the maximum strength and positional stability in retaining the impression post cap within the impression material.